# ORDER FORM

- 1. Please type or print mailing address.
- 2. No shipments until payment received.
- 3. MBG Press will not replace or refund orders for international shipments that become lost or damaged outside the U.S. Postal Service area.
- 4. Make check or money order payable to Missouri Botanical Garden, in U.S. funds, and payable through U.S. bank.
- 5. We accept VISA, MasterCard and American Express.

NUMBER		EXP. DATE
Send order to:		
MBG Press Ord	ders, Missouri Botanical Ga	rden
P.O. Box 299, S	St. Louis, Missouri 63166-0	299 U.S.A.
Fax: 314-577-9	9591 <b>Tel.:</b> 314-577-9534 or	toll-free 877-271-1930
E <b>mail:</b> mbgpres	ss@mobot.org Website: www	w.mobot.org/mbgpress
	_	
DATE	TELEPHONE NO.	
SHIP TO		

U.S. Price

\$49.95

Qty.

Shipping \$ \_

Total Order \$

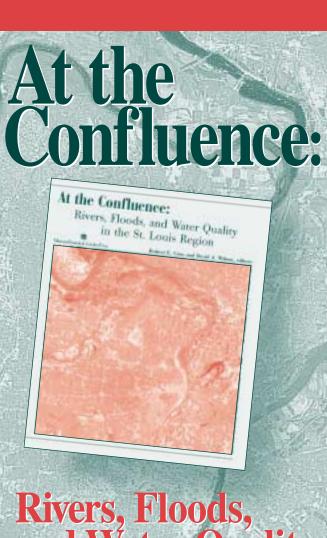
Total

Shipping Information: Within the U.S.: \$5.00 + 5% of order subtotal. Outside the U.S.: \$7.00 + 6% of order subtotal. Worldwide: \$5.00 for orders of \$50 or less. Books are shipped within the continental United States by UPS ground delivery. Faster UPS options (next day, 2nd day, 3rd day) are available upon request. International packages are shipped by USPS surface mail. Special U.S. Postal Service rates are also available.

At the Confluence

PRICES AND SHIPPING CHARGES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

MBG Press Orders Missouri Botanical Garden P.O. Box 299 St. Louis, Missouri 63166-0299



AVAILABLE NOW

Rivers, Floods, and Water Quality in the St. Louis Region

NON-PROFIT ORG St. Louis, MO Permit No. 495 U.S. Postage

he St. Louis region surrounds the confluence of three mighty rivers: the Illinois, Missouri, and Mississippi.

At the Confluence: Rivers, Floods, and Water Quality in the St. Louis Region

Robert E. Criss and David A. Wilson, editors

Missouri Botanical Garden Press, St. Louis, Missouri, U.S.A.

278 pages ISBN 1-930723-21-0 Softbound, illustrated \$49.95 The region has great rivers and broad flood-

plains. St. Louis is also at the northeastern edge of the Ozark bioregion, which is known for its crystal clear, spring-fed streams, a region that helps

give Missouri the distinction as the state with the most miles of rivers. The land in this region of Missouri and Illinois is laced with karst geology that serves to intensify the relationship between surface and groundwater. Thus water is of intense interest to St. Louis; moreover, the issues of water in this region have application to other communities worldwide. Chapters in the book represent interdisciplinary papers from a symposium held in April 2001, which addressed the many facets of water: water supply, water pollution, groundwater,

healthy
rivers and
streams, floods,
riparian habitat, and
providing a supply of clean
drinking water as well as water for
our industrial and agricultural processes.
Included topics should be of interest to experts in
a variety of disciplines studying rivers and water
resource issues. Residents of other cities who
are interested in their local rivers and streams
will also find much of interest in this book.

# From the Contents

PREFACE At the Confluence: Rivers, Floods, and Water Quality in the St. Louis Region David A. Wilson and Robert E. Criss, Editors

**FOREWORD Rethinking Water as a Resource** *Peter H. Raven and David A. Wilson* 

1. Introduction Rivers of the St. Louis Confluence Region Robert E. Criss and David A. Wilson

#### 2. HISTORY

- **2.1** St. Louis and Its River: A Story of Ambivalence *Andrew Hurley*
- 2.2 Water Quality and Watershed Initiatives at the Metropolitan St. Louis Sewer District *Gary T. Moore*
- **2.3** History of Drinking Water in the City of St. Louis Amy C. Glaser, James W. Kopp, and M. Lee Davisson
- 3. FLOODS, FLOODPLAINS, AND IMPLICATIONS FOR DEVELOPMENT AND RESTORATION
- 3.1 Character and Origin of Floodwaters Robert E. Criss

3.2 Flash Flooding in the Meramec Basin, May 2000 William E. Winston and Robert E. Criss

- 3.3 Engineering Modifications and Changes in Flood Behavior of the Middle Mississippi River Nicholas Pinter and Russell Thomas
  - **3.4** Lower Missouri Floodplain at Arrow Rock Before and After the Great Floods of 1993 *Curt S. Niebur et al.*
- 3.5 Geomorphic Effects in Levee-Break Complexes and Implications for Flood-Damage Assessment *Robert B. Jacobson*

### 4. WATER RESOURCES AND WATER OUALITY

- **4.1** Water and Solute Sources in an Urban Stream, River des Peres, St. Louis, Missouri Everett L. Shock et al.
- **4.2** Organic Matter in Rivers: The Crossroads Between Climate and Water Quality *M. Lee Davisson*
- **4.3** Upriver Impacts on Downstream Water Quality: The Case of the Lower Mississippi River *Timothy J. Sullivan*
- 4.4 Quantity and Quality of Alluvial Groundwater Gary R. Clark
- **4.5** Water Quality in the Karst Terrain of Southwestern Illinois *Alan M. Stueber et al.*
- **4.6** Bathymetry, Water Balance, and Leak Rate of Prairie Lake, Weldon Spring Conservation Area, Eastern Missouri Samantha A. Fernandes et al.

## 5. PROTECTION AND RESTORATION

- **5.1** Planning for a Healthy Environment: A Game Plan for Communities *J. Tracy Boaz*
- **5.2** East St. Louis and Vicinity, Illinois, Ecosystem Restoration and Flood Damage Reduction Project *Deborah L. Roush*
- **5.3** Rainfall is an Act of Nature; Stormwater is an Act of Man Robert D. Prager and Munsell McPhillips
- **5.4** Local Solutions to Regional Problems: The Watershed Approach *Thomas E. Davenport and David A. Wilson*

AFTERWORD Good Places: Clean Water and Open Spaces
The Future of Development for the St. Louis Region
Robert R. Archibald

